

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	The Psychological Impact of the COVID-19 Pandemic on Healthcare Workers at Acute Hospital Settings in the South-East of Ireland – An Observational Cohort Multi-Centre Study
<b>AUTHORS</b>	Ali, Saied; Maguire, Sinead; Marks, Eleanor; Doyle, Maeve; Sheehy, Claire

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Dr. Luís Carlos Lopes-Júnior Health Sciences Center Federal University of Espírito Santo (UFES), Vitória, ES, Brazil
<b>REVIEW RETURNED</b>	21-Sep-2020

<b>GENERAL COMMENTS</b>	<p>September 22th, 2020</p> <p>Manuscript ID: bmjopen-2020-042930</p> <p>Title: The Psychological Impact of the COVID-19 Pandemic on Healthcare Workers at Acute Hospital Settings in the South- East of Ireland – An Observational Cohort Multi-Centre Study</p> <p>General comments:</p> <p>Thank you for the opportunity to review this timely article about an important and understudied topic regarding the psychological impact of the COVID-19 pandemic on healthcare workers, mainly in the current emerging global scenario.</p> <p>The authors undertaken an observational cohort study aimed to Our study aims to understand the psychological impact of the COVID-19 pandemic among healthcare workers (HCWs) at acute hospital settings in the South-East of Ireland, as a crucial step in guiding policies and interventions to maintain their psychological well-being.</p> <p>The study is well-written, relevant, current and emerging for the global health scenario. However, this study brings some interesting results and new insights as a potential contribution to the impact of COVID-19 on mental health outcomes of HCWs. I believe that this is a novel paper with a topic that will be great interest for BMJ Open readers.</p> <p>I have some comments, suggestions in order to strengthen the potential contribution of this topic in any revision the author(s) might undertake.</p> <p>Major Revision:</p>
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	<p><b>INTRODUCTION</b></p> <p>Page 5. Lines 20-25: Please, to update the information according to the last Situation report COVID-19 in the Republic of Ireland (ROI) from the reference 4.</p> <p>Page 6. Lines 24-47: There are some relevant outputs about this particular topic that were not quoted in the introduction section. Please, check out the following references, considering cite them.</p> <p>doi: 10.1016/S0140-6736(20)30644-9 doi:10.1136/bmjopen-2020-039426</p> <p><b>METHODOLOGY</b></p> <p>Page 6. Lines 25- 42. For the validated instruments such as, DASS-21, and IES-R), please, to provide here the values of the psychometric properties of this validated instrument (the Cronbach's alpha coefficient, the Intraclass Correlation Coefficient - ICC) for the validated version in the Republic of Ireland (ROI).</p> <p>- How was your study sample size calculated? Please, clarify to the reader.</p> <p>Statistical Analysis Please, to inform the level of statistical significance adopted. Why did the authors perform any multivariate analysis? It would be more interesting to propose some regression models and analyze the effect of independent variables in relation to dependent ones.</p> <p><b>DISCUSSION</b> Please, check out the following references, considering cite them in the first paragraph.</p> <p>doi: 10.1016/S0140-6736(20)30644-9 doi:10.1136/bmjopen-2020-039426</p> <p>Page 11. Lines 13-19 Limitations. Please include other limitations of your study related mainly to the bias inherent in cohort studies. In addition, comment on the recall bias from the HCW, which might have influenced the results.</p> <p><b>CONCLUSION</b> It is not consistent with the purpose of your study. Please return to the objective and answer the conclusion in your study. Conclude from the objective outlined and adjusted in the same way in the Abstract.</p>
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<b>REVIEWER</b>	Leen Naji McMaster University, Canada
<b>REVIEW RETURNED</b>	07-Oct-2020
<b>GENERAL COMMENTS</b>	- A major limitation to this study is the fact that these measures were not completed pre and post covid. Therefore, it is hard to know whether it is actually COVID that is causing this

	<p>psychological impact, or other factors (e.g., other work stressors, hospital environment, conflicts with colleagues etc).</p> <p>- Additionally, past history of mental health disease would be a significant risk factor for scoring positively on these scores. Even though the authors state they collected past medical history, psychiatric diagnoses are not listed in table 1. If available, this should be added to the table. If not, this should be added as a limitation.</p> <p>- The authors state and cite the tools they used, but without defining the parameters and score ranges, it is difficult for the reader to gauge the severity of the problem. Please define parameters and cutoffs for the tools used. E.g,</p>
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## VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name

Dr. Luís Carlos Lopes-Júnior

Health Sciences Center Federal University of Espírito Santo (UFES), Vitória, ES, Brazil

Manuscript ID: bmjopen-2020-042930

Title: The Psychological Impact of the COVID-19 Pandemic on Healthcare Workers at Acute Hospital Settings in the South- East of Ireland – An Observational Cohort Multi-Centre Study

General comments:

Thank you for the opportunity to review this timely article about an important and understudied topic regarding the psychological impact of the COVID-19 pandemic on healthcare workers, mainly in the current emerging global scenario.

The authors undertaken an observational cohort study aimed to understand the psychological impact of the COVID-19 pandemic among healthcare workers (HCWs) at acute hospital settings in the South-East of Ireland, as a crucial step in guiding policies and interventions to maintain their psychological well-being.

The study is well-written, relevant, current and emerging for the global health scenario. However, this study brings some interesting results and new insights as a potential contribution to the impact of COVID-19 on mental health outcomes of HCWs. I believe that this is a novel paper with a topic that will be great interest for BMJ Open readers.

Many thanks for your kind words!

I have some comments, suggestions in order to strengthen the potential contribution of this topic in any revision the author(s) might undertake.

### INTRODUCTION

Page 5. Lines 20-25: Please, to update the information according to the last Situation report COVID-19 in the Republic of Ireland (ROI) from the reference 4.

This has since been updated to reflect current statistics as per the Health Protection Surveillance Centre Epidemiology Report dated 27/10/2020.

Page 6. Lines 24-47: There are some relevant outputs about this particular topic that were not quoted in the introduction section. Please, check out the following references, considering cite them.

doi: 10.1016/S0140-6736(20)30644-9

doi:10.1136/bmjopen-2020-039426

They have been considered and incorporated as citations, both in the Introduction and Discussion.

## METHODOLOGY

Page 6. Lines 25- 42. For the validated instruments such as, DASS-21, and IES-R), please, to provide here the values of the psychometric properties of this validated instrument (the Cronbach's alpha coefficient, the Intraclass Correlation Coefficient - ICC) for the validated version in the Republic of Ireland (ROI).

Cronbach's alpha coefficient values of 0.81, 0.89 and 0.78 for the subscales of depression, anxiety and stress respectively and 0.95 for total IES-R scores have since been included under the Validated Rating Scales

How was your study sample size calculated? Please, clarify to the reader.

A total of 2112 HCWs are employed at the hospital sites recruited, and assuming a 5% statistical significance in this population, a recommended sample of size of at least 326 was suggested.

## Statistical Analysis

Please, to inform the level of statistical significance adopted.

Why did the authors perform any multivariate analysis? It would be more interesting to propose some regression models and analyze the effect of independent variables in relation to dependent ones.

A p value of 0.05 was deemed significant prior to computation of analysis. A multivariate regression analysis was not performed as a part of this analysis but that could be considered as part of future research. One of the reasons this was not performed was the participation in the survey was voluntary so associations drawn from the sample population may not truly reflect the general population. In addition, as our data was observational, there was no way to assume that the data was normally distributed. In this case application of a multivariate regression analysis could falsely represent associations which are not truly present.

## DISCUSSION

Please, check out the following references, considering cite them in the first paragraph.

doi: 10.1016/S0140-6736(20)30644-9

doi:10.1136/bmjopen-2020-039426

They have since been cited accordingly.

Page 11. Lines 13-19 Limitations. Please include other limitations of your study related mainly to the bias inherent in cohort studies. In addition, comment on the recall bias from the HCW, which might have influenced the results.

Recall and selection bias have now been included.

## CONCLUSION

It is not consistent with the purpose of your study. Please return to the objective and answer the conclusion in your study. Conclude from the objective outlined and adjusted in the same way in the Abstract.

The Conclusion has now been reworded to reflect achievement of the Objective.

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Reviewer: 2

Reviewer Name

Leen Naji

Institution and Country

McMaster University, Canada

Comments to the Author

- A major limitation to this study is the fact that these measures were not completed pre and post covid. Therefore, it is hard to know whether it is actually COVID that is causing this psychological impact, or other factors (e.g., other work stressors, hospital environment, conflicts with colleagues etc).

This has since been considered and included in the limitations

- Additionally, past history of mental health disease would be a significant risk factor for scoring positively on these scores. Even though the authors state they collected past medical history, psychiatric diagnoses are not listed in table 1. If available, this should be added to the table. If not, this should be added as a limitation.

We do recognise the significance of a past medical history of psychiatric disorders, but our participants failed to identify the presence of any; nonetheless we appreciate your comment and have addressed it in the limitations

- The authors state and cite the tools they used, but without defining the parameters and score ranges, it is difficult for the reader to gauge the severity of the problem. Please define parameters and cutoffs for the tools used.

Parameters were initially quoted in the Results section but the manuscript has since been amended to include the scoring in the Methodology as apart from Results alone, for both the DASS-21 and the IES-R.

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Professor Dr. Luís Carlos Lopes-Júnior Universidade Federal do Espírito Santo (UFES), Vitória, ES, Brazil.
<b>REVIEW RETURNED</b>	15-Nov-2020
<b>GENERAL COMMENTS</b>	The authors adequately answered my questions and made / accepted all the requested adjustments, which substantially improved the manuscript. In that sense, I recommend the acceptance of this version of the manuscript for publication in the BMJ Open. I would like to congratulate the authors for this interesting and important work.